

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

RE: INTERVIEW

The Examiner is thanked for conducting a telephone interview with the undersigned on February 4, 2010, during which the features and operation of the present invention were discussed. The Interview Summary mailed February 16, 2010, accurately reflects the substance of the interview.

THE DRAWINGS

Figs. 3 and 14 have been amended to include lines between pivot axes of the working machine in the three illustrated positions of the working implement.

Submitted herewith are corrected sheets of formal drawing which incorporate the amendments and annotated sheets showing the changes made thereto.

With respect to the objection to the drawings on the grounds that the features of claim 21 are not shown, it is respectfully pointed out that claim 21 has been amended to recite that the angle between the first line segment and the second line segment is set so as not to be greater than an angle at which a sum of attachment angles of the attachment at a middle position and at a top position of the attachment is substantially 0 degrees. Thus,

amended claim 21 is directed to the setting of the angle between the first line segment and the second line segment, i.e., the "bell crank angle." And it is respectfully submitted that the features of amended claim 21 are shown, for example, in Fig. 6, wherein it can be seen that the sum of attachment angle becomes zero when the bell crank angle is 170° . Accordingly, the bell crank angle may be set not greater than 170° , as explained at page 13, lines 13-29 and page 20, line 7 to page 22, line 2.

With respect to the objection to the drawings on the grounds that the features of claim 30 are not shown, it is respectfully pointed out that as can be seen in amended Fig. 3, the pivot axis W of the tilt cylinder (not shown in Fig. 3) on the bell crank 11 is radially outward of the pivot axis Y of the boom 10 to the bell crank 11 in each of a ground position, an intermediate position and a top position while the attachment, bucket 20, has the same posture. Thus, it is respectfully submitted that the features of claim 30 are shown in amended Fig. 3.

No new matter has been added, and it is respectfully requested that the amendments to Figs. 3 and 14 be approved and entered, and that the objection to the drawings be withdrawn.

THE CLAIMS

Independent claim 13 has been amended as suggested by the Examiner to clarify that the attachment is one of a plurality of

attachments, and to clarify that each of the attachments is pivotally supportable at a different position by the connecting link with reference to a pivot position on the boom, so as to better comply with the requirements of 35 USC 112, second paragraph.

In addition, claim 21 has been amended to clarify that the angle between the first line segment and the second line segment is set so as not to be greater than an angle at which a sum of attachment angles of the attachment at a middle position and at a top position of the attachment is substantially 0 degrees. These features are disclosed in the specification at, for example, page 13, lines 13-29 and page 20, line 7 to page 22, line 2. And it is respectfully submitted that recitation of specific components or tilt angle of the bucket is not necessary in view of the amendments to claim 21.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered and that the rejections under 35 USC 112, first and second paragraphs, be withdrawn.

It is respectfully submitted, moreover, that the amendments to the claims are not related to patentability, and do not narrow the scope of the claims either literally or under the doctrine of equivalents.

THE PRIOR ART REJECTION

Claims 13, 21, 25, 29 and 31 were rejected under 35 USC 103 as being obvious in view of the combination of JP 63-22499 ("JP '499") and USP 5,201,235 ("Sutton") and as being obvious in view of the combination of JP '499 or JP 06-293498 ("JP '498") and USP 3,321,215 ("Kampert"). These rejections, however, are respectfully traversed.

According to the present invention as recited in amended independent claim 13, a working machine is provided which comprises a boom having a first end attached to a structural body, an attachment attached to a second end of the boom, a bell crank attached to a middle position of the boom in a longitudinal direction thereof, a tilt cylinder having a first end pivotally supported on the structural body and a second end pivotally supported on an upper end of the bell crank when the fork is horizontally at a ground position, a boom cylinder having a first end pivotally supported on the structural body and a second end pivotally supported on the boom, and a connecting link for connecting a lower end of the bell crank and the attachment when the attachment is horizontally at a ground position. In addition, as recited in amended independent claim 13, the attachments include a bucket, the bucket being attached to the boom and the connecting link such that it has different postures at the ground position including a horizontally supported posture and a tilted

posture in which it is tilted by the tilt cylinder. Still further, as recited in amended independent claim 13, a pivot position of the tilt cylinder to the structural body is below a pivot position of the boom to the structural body, and a pivot position of the boom cylinder to the structural body is above a pivot position of the boom to the bell crank when the fork is horizontally at a ground position.

Yet still further, according to the present invention as recited in amended independent claim 13, the bell crank is constructed and connected to the tilt cylinder and the boom, the tilt cylinder is constructed and connected to the bell crank and the structural body, and the boom is constructed and connected to the bell crank and the structural body to provide the attachment with the ground position, a top position and at least one intermediate position between the ground position and the top position in which the attachment, including the bucket with the different postures at the ground position, has the same posture in all of the ground position, the at least one intermediate position and the top position.

With the structure of the claimed present invention, not only can each of the postures of the bucket, including the tilted posture, be maintained in the different positions, including the ground position, the top position and the intermediate position,

but also the tilting force can be improved when the bucket is in the tilting posture in the top position.

It is respectfully submitted that this improvement is an unexpected and unpredictable advantageous effect achieved by the structure of the claimed present invention, namely, the connections between the different elements as precisely recited in amended independent claim 13. That is, since none of the cited references even remotely suggest the need to address a problem with a tilting force for an attachment in a specific posture and in a specific position, it is respectfully submitted that there would have been no motivation for one of ordinary skill in the art to combine the references in the manner suggested by the Examiner to achieve the structure and advantageous effects of the claimed present invention.

JP '499 discloses maintaining a tilting posture for an attachment through different positions, but does not disclose any problem relating to insufficient or inadequate tilting force when the attachment is at the top position.

Sutton and JP '398 disclose maintaining a horizontal posture for an attachment, but do not disclose any problem relating to insufficient or inadequate tilting force when the attachment is at the top position.

Kampert discloses a forward-bent bell crank, but does not at all disclose or even remotely suggest maintaining the posture of

an attachment in different positions and any problem relating to insufficient or inadequate tilting force when the attachment is at the top position.

Accordingly, none of the cited prior art references disclose connections between a bell crank, tilt cylinder, boom and structural body to provide an attachment with a ground position, a top position and at least one intermediate position in which the attachment, including a bucket that has a tilted posture in which it is tilted by the tilt cylinder, has the same posture in all of the ground position, the at least one intermediate position and the top position, as according to the claimed present invention. And it is respectfully submitted that the cited prior art references therefore cannot teach an improvement arising from these connections, namely the improvement in the tilting force when the bucket is in the top position as achieved by the claimed present invention.

Still further, it is respectfully submitted that the structure of the claimed present invention would not have been an obvious modification in view of the cited prior art because the need to improve the tilting force when an attachment is at the top position, in a working machine of the type set forth in amended independent claim 13, is not discussed in the cited prior art. Without recognizing any problem with insufficient or inadequate tilting force, it is respectfully submitted that one

of ordinary skill in the art would have had no reasonable motivation to turn to the teachings of Kampert and Sutton, when considering modification of JP '499 or JP '398, to achieve the structure of the claimed present invention.

In view of the foregoing, it is respectfully submitted that clarified amended independent claim 13 and claims 21, 25 and 29-31 depending therefrom, all clearly patentably distinguish over the cited references, taken in any combination consistent with the respective fair teachings thereof, under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,

/Douglas Holtz/

Douglas Holtz
Reg. No. 33,902

Frishauf, Holtz, Goodman & Chick, P.C.
220 Fifth Avenue - 16th Floor
New York, New York 10001-7708
Tel. No. (212) 319-4900

DH:br/bl
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